

REMARKS

Claims 8-14 are pending in the application. Claims 15 and 16 are newly added in this Amendment.

The Claimed Invention

The present invention relates to a dishwashing machine and in particular, features of the dishwashing machine that filter particles from a dishwashing liquid in the dishwashing machine. The dishwashing machine includes a container that holds a predetermined quantity of a liquid mixed with at least one of a foam forming substance and cleaning agents. The container includes an arrangement for producing a flow of a gaseous fluid, such as air, through the predetermined quantity of the liquid so as to generate a foam layer. The foam layer filters out from the dishwashing liquid passed through the foam layer, a substantial fraction of particles entrained with the dishwashing liquid and such filtered-out particles are retained in the foam layer.

In the present invention, the thickness of the foam layer can be varied and is adjustable in height. By metering the foam-forming substance, a foam layer of different thickness can be achieved, which is matched to the respective degree of contamination of the dishwashing fluid. For example, if a very small quantity of the foam-forming substance is added to the container by means of the dosing device, a thin foam layer is formed which can only absorb a small quantity of particles. However, if a larger quantity of the foam-forming substance is added to the container, a thicker foam layer is formed

whereby larger particles or a larger number of particles can be filtered out. The requirement for foam-forming substance can be determined by means of a turbidity sensor, for example, which detects the turbidity of the dishwashing solution, and thus regulates the thickness of the foam layer.

Using the foam to clean the dishwashing liquid is advantageous over features in the related art that are used, such as mechanical filters, for example, comprising a lattice network or a metal film with pores. The operating mode of mechanical filters is substantially determined by the surface condition and the pore size of the filter. Since the size of the pores substantially influences both the filter capacity and the cleanability, a pore size is selected which ensures the filtering of small particles and also a good cleanability. However, with mechanical filters, despite multistage filter devices, it is not possible to filter out fine and superfine particles such as food residue, for example, from the circulating dishwashing fluid. These particles are therefore continuously circulated and are only removed in part from the circulating cycle into the waste water at the end of the washing program, for example, during the clear rinsing.

The Rejections under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a)

Claims 8-12 stand rejected under 35 U.S.C. § 102(b) as being anticipated by any one of Kemper (U.S. Patent No. 6,413,366) or Britz (U.S. Patent Publication No. 2004/0256295) or Dolbear (U.S. Patent No. 1,478,703) or Dolbear (U.S. Patent No. 1,480,884) or DE 10250762 or Tlok (U.S. Patent No. 5,910,248). Applicants respectfully traverse these rejections.

The grounds of rejection state that any of the cited patents disclose a device defining a container having a foam layer forming means and means in the upper portion of the container to guide in a fluid, and that the valve means are inherent or are specifically disclosed. The grounds of rejection specifically refer to Figure 1 of Kemper and a feed suspension at 5 into the foam layer. The grounds of rejection further state that in Figure 4 of Britz, there is an embodiment with feed means 7 into foam layer 12. Further, the grounds of rejection refer to the Dolbear patents which feeds through rotary drums into the foam layer. Also, the grounds of rejection state that DE '762 discloses six different embodiments with the feed being sent into the froth layer. Finally, the grounds of rejection state that Tlok discloses a foam layer 8 into which water and particles from influent water feed inlet 2 ultimately engages.

MPEP § 2131 provides that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Moreover, “[e]very element of the claimed invention must be literally present, arranged as in the claim.” *Id.* In the present case, the grounds of rejection have not established that each element of the claims is disclosed in the cited references. The Office Action summarily refers to a couple of features provided in the cited art with no reasoning or association with the claimed features. As such, Applicant cannot reasonably determine which “element” of the claim

is believed to correspond with which section, figure or feature cited in the rejection. In other words, Applicants respectfully submit that they have not been sufficiently put on notice as to the rationale behind the rejection and cannot adequately determine whether such basis is proper.

Applicants respectfully submit that none of the six (6) cited references refer to a “predetermined quantity of a liquid” as recited in independent claims 8 and 13. In the present invention, as discussed above, the thickness of the foam layer can be varied and is adjustable in height. By metering the foam-forming substance, a foam layer of different thickness can be achieved, which is matched to the respective degree of contamination of the dishwashing fluid. The use of a predetermined quantity of liquid as claimed is a part of this process.

To further define the invention, and the novel manner in which the thickness of the foam layer may be varied in the present invention, Applicants have added new claims 15 and 16. Independent claim 15 includes a dishwashing machine having a metering device structured to produce a flow of a gaseous fluid through the predetermined quantity of liquid so as to generate a foam layer with the foam layer having filter properties in that the foam layer filters out from a dishwashing liquid passed through the foam layer a substantial fraction of particles entrained with the dishwashing liquid and such filtered-out particles are retained in the foam layer; and a turbidity sensor structured to detect a turbidity of the dishwashing liquid, wherein the metering device is further structured to vary the foam layer to match a degree turbidity detected by the turbidity sensor. Independent claim 16 provides the method claim including similar novel features.

Applicants respectfully submit that these features are not disclosed or suggested in the cited art, and that claims 8-16 are allowable.

CONCLUSION

In view of the above, allowance of claims 8-16 are respectfully requested. If the Examiner has any questions regarding the remarks herein, the Examiner is kindly requested to contact the undersigned. If an extension of time for this paper is required, petition for extension is herewith made.

Respectfully submitted,

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May 7, 2010

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